

Notice of Allowability

Application No.

10/710,286

Examiner

Shouxiang Hu

Applicant(s)

CHINTHAKINDI ET AL.

Art Unit

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/18/2007.
2. ☒ The allowed claim(s) is/are 1-7 and 9-16.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


SHOUXIANG HU
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in telephone interviews with Joseph P. Abate (RN: 30,238) and Henri Schnurmann (RN 35,791) on April 24, 2007.

The application has been amended as follows:

IN THE CLAIMS

In claim 1, the third line from the bottom, change "dielectric material" to: --dielectric layer--.

In claim 2, line 5, change "material surrounding" to: --layer adjacent to--.

In claim 4, line 3, between "depositing" and "elastomeric", insert: --said--.

In claim 4, line 3, change "dielectric" to: --dielectric layer--.

In claim 4, line 5, change "conductive" to: --said conductive--.

In claim 4, line 5, change "dielectric" to: --dielectric layer--.

In claim 4, line 9, change "cavity with" to: --cavity in said fourth dielectric layer with--.

In claim 6, line 3, change "dielectric" to: --dielectric layer--.

In claim 13, line 2, change "dielectric surrounding said electrodes" to: --second dielectric layer--.

In claim 15, line 5, change "one cavity" to: --one cavity in said fourth dielectric layer--.

In claim 15, line 7, change "insulating" to: --fourth dielectric--.

In claim 16, line 2, change "layer is made of a liner material" to: --lines comprise at least one material--.

Allowable Subject Matter

Claims 1-7 and 9-16 are allowed.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance: prior art does not teach or render obvious a method of fabricating a micro-electromechanical system (MEMS) variable capacitor as defined in the above allowed claims, comprising particularly the steps of: depositing the first, second and third dielectric layers on a substrate; forming cavities and/or electrodes in these layers, especially including etching at least one cavity in the second dielectric layer and filling and planarizing it with a sacrificial material; forming a plurality metal lines on top of the third dielectric layer, with the metal lines being interconnected therebetween and to the ground plane electrode through conductive vias; embedding elastomeric material between the

conductive vias; and, selectively removing portions of the third dielectric layer and etching away the sacrificial material.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shouxiang Hu whose telephone number is 571-272-1654. The examiner can normally be reached on Monday through Friday, 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard T. Elms can be reached on 571-272-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

Application/Control Number: 10/710,286

Page 5

Art Unit: 2811

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SH
April 26, 2007



SHOUXIANG HU
PRIMARY EXAMINER